

FIGURE 1

DeCypher Results for: ClustalW Multiple Alignment

[View dendrogram](#)

Smart II oligo → 5' UTR

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hDAP10c      CTATATACGACCTCACTATATAGGGCAGCAGTGGTAACTACACACACAGTACGCGGGAGTCGGG
mDAP10c_coding -----

hDAP10c      CCGCGGGGACGGCGGCAGGAGCGCGTCCCGGCGCGCGCTCGGGCTCCGCTCGGCTCGGGG
mDAP10c_coding -----

hDAP10c      GCTGCTTCGGGAGGAGGAGAGCCAAGGGAGCGCGCCAGGCCCGCGGGCCGGGCGCATGGCT
mDAP10c_coding -----

hDAP10c      TAGGGACGCTCCCGGCGCGCGCAGCCCCAGC ATGGGGAAACTTCACTCCAAGCCGGCCGC
mDAP10c_coding ----- ATGGGGAAACTTCACTCGAAGCCGGCCGC
                      *****

hDAP10c      CGTGTGCAAGCGCAGGGAGAGCCCCGAAGGTGACAGCTTCGCCGTGAGCGCTGCCTGGGC
mDAP10c_coding CGTGTGCAAGCGCAGGGAGAGCCCCGAAGGTGACAGCTTTGCTGTAAAGCGCTGCTTGGGC
                      *****

hDAP10c      TCGGAAGGGCATCGAGGAGTGGATCGGGAGACAGCGCTGCCCGGGCGGTGTCTCGGGACC
mDAP10c_coding AAGGAAAGGCATCGAGGAGTGGATCGGGAGGACAGCGCTGTCCAGGCAGCGTCTCAGGACC
                      *****

hDAP10c      CCGACAGCTGCGGTTGGCGGGCACCATAGGCCGAAGCAGCCCGGAGCTCGTGGCGACGT
mDAP10c_coding CCGTCAGCTGAGATTGGCAGGCACTGTTGGTTCGAGGCACTCGGGAACTCGTGGGTGACAC
                      *** *****

hDAP10c      GTTGAGAGACACGCTCAGCGAGGAAGAGGAGGACGACTTTCCGGCTGGAAGTGGCCCTGCC
mDAP10c_coding TTCTAGAGAGGCTCTCGGTGAGGAGGACGAGGACGACTTCCCCCTAGAAGTGGCCCTGCC
                      * *****

hDAP10c      TCCTGACAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGAAGATCGAGAGAGTGAGCGA
mDAP10c_coding GCCTGACAAGATCGACAGCCTAGCTAGTGGAGATGAGAAGAGAATCGAGAGACTGAGCGA
                      *****

hDAP10c      ACCCTGCCCAGGCTCCAAGAAGCAGCTGAAGTTTGAAGAGCTCCAGTGGCAGGTGTCCAT
mDAP10c_coding ACCTGGCCAGGCCTCCAAGAAGCAGCTCAAGTTTGAAGAGCTACAGTGTGATGTCTCTGT
                      *** **

hDAP10c      GGAGGAGGACAGCCGGCAGGAGTGGACCTTCACCTGTATGACTTTGACAACAACGGCAA
mDAP10c_coding GGAGGAGGACAGCCGGCAAGAGTGGACTTTCACTCTATATGACTTCGACAACAATGGCAA
                      *****

hDAP10c      GGTCAACCCGAGAGGACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGACTCCTC
mDAP10c_coding AGTGACCCGTGAGGACATTACCAGCTTGCTGCATACCATCTATGAAGTGGTTGACTCCTC
                      ** *****

hDAP10c      TGTCAACCACTCCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACCGTGGCCCCCGA
mDAP10c_coding TGTGAACCATCCCCACATCAAGCAAGACACTGCGGGTGAAGCTCACCGTGGCTCCTGA
                      *** *****

hDAP10c      TGGCAGCCAGAGCAAGAGGAGCGTCTTGTCAATCAGGCTGACCTGCAGAGCGCAAGGCC
mDAP10c_coding CGGGAGCCAGAGTAAGAGGAGCGTCTTTTCAACCATACCGATCTGCAGAGCACAAAGGCC
                      ** *****

hDAP10c      CCGAGCAGAGACCAAGCCCACTGAGGACCTGCGGAGCTGGGAGAAGAAGCAGCGAGCCCC
mDAP10c_coding CCGAGCAGACACCAACCCGCTGAGGAGCTGCGTGGCTGGGAGAAGAAGCAGCGAGCCCC
                      *****

hDAP10c      GCTCAGGTTCCAGGTTGACAGCGCGCTGGAGCAGTCTGGCTGCTACCACCATTCGGTAGA
mDAP10c_coding ACTCAGGTTCCAGGTTGACAGCGACCTGGAGCAGCAGACTGCTACCACCATTCGCTGGG
                      *****

hDAP10c      TGAGAACATCGAGAGGAGAAACCACTACTTAGATCTCGCCGGGATAGAAAACCTACACGTC
mDAP10c_coding TGAGAACATTGAGAGGAGAAACCACTACCTAGACCTGGCGGGGATAGAGAACTACACGTC
                      *****

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hDAP10c	CCAATTTCGGGCTGGCTCCCCCTTCGGTGGCCCAGAAAGTCAGAACTGCCCCCCCCGACCTC
mDAP10c_coding	TCAGTTTGGACCGGGATCCCCCTTCGGTGGCCCAGAAAGTCAGAGCTGCCCCCTCGAATCTC

hDAP10c	CAATCCCCTCGATCTCGCTCCCATGAGCCGGAAGCCATCCACATCCCACACCGAAAGCC
mDAP10c_coding	CAACCCCACTCGCTCTCGCTCCCATGAGCCGGAAGCCATCCACATCCCACACCGAGGCC
	***
hDAP10c	CCAAGGCGTGGACCCGGCTCCTTCCACTTCCTTGACACCCCAATCGCCAAGGTCTCAGA
mDAP10c_coding	CCAAGGTGTGGACCCAGGCTCCTTCCACTTCCTTGACACCCCAATTTGCCAAGGCATCAGA
	*****
hDAP10c	GCTCCAGCAACGGCTCCGGGGCAGCCAGGACGGGAGCAAGCACTTTGTGAGGTCCCCAA
mDAP10c_coding	GCTCCAGCAACGGCTCCGGGGCACTCAGGATGGGAGCAAGCACTTTGTGAGGTCCCCAA
	*****
hDAP10c	GGCCCAGGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCCCC
mDAP10c_coding	GGCCCAGGGCAAGAACATGGGTATGGGCCACGGGGCCAGAGGTGCAAGAAGCAAGCCTCC
	*****
hDAP10c	TCTGGGACCCGCCATCCCTGCGGTGTCCCCCTCCGCCCACCTGGCTGCCAGCCCGGCCCT
mDAP10c_coding	ACTGCTACCCACCACCCATACTGTCTCCCCCTCTGCCCATCTGGCCACCAGCCAGCCCT
	***
hDAP10c	CCTCCCCCTCCCTAGCCCCCTTCGGGCACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCA
mDAP10c_coding	TCTCCCCACCTGCGCACCCCTGGGGCACAAGAAACACAAGCATCGAGCCAAGGAGAGCCA
	*****
hDAP10c	GCAGGGCTGCCGGGGCCTGCAGGCACCACTGGCCCTCAGGTGGCCCT---GTCCTGGGGCG
mDAP10c_coding	GGCGAGCTGCCGGGGCCTGCAGGGCCCCCTGGCTGCAGGAGCCTCCACCGTCATGGGGCG
	*
hDAP10c	GGAGCACCTCGGGAGCTGCCCCGCTTGGTGGTGTATGAGAGCCAGGCCGGGCAGCCGT
mDAP10c_coding	GGAGCAGGTGAGGGAGCTGCCCTGCCGTGGTGGTGTACGAGAGCCAGGCTGGGCAGCCGT
	*****
hDAP10c	CCAGAGACATGAGCACCACCACCACCATGAACATCACCACCATTACCACCCTTCTACCA
mDAP10c_coding	CCAGAGACACGAACACCATCACCACCACGAACATCACCACCATTATCACCCTTCTATCA
	*****
	7' UTR
hDAP10c	GACATAGAGCCCCCTCCCCAGGGCCCCACCCCTGCCATATGAAGGACCCCAACCCCGACACC
mDAP10c_coding	GCCCTAG-----
	*
hDAP10c	ACAAGGCATTATTATTCTATTAAATTATTGTTATTATGATGATTATTGTTATTATAATTA
mDAP10c_coding	-----
hDAP10c	TTGTTACTCCACTAATATTTAGCTAGCCTACATGTAGAAGATCTATCGAAACACAGAACT
mDAP10c_coding	-----
hDAP10c	AAACTTTTATTTATATGTTAAAAA
mDAP10c_coding	-----

FIGURE 2

Cypher Results for: ClustalW Multiple Alignment

v dendrogram

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>10FL.pdp_      MGKLHSPAAVCKRRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGSGPRQLRLAGTIG
>.pdp_          MGKLHSPAAVCKRRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGSVSGPRQLRLAGTVG
                  *****
>10FL.pdp_      RSTRELVGDLVRDTLSEEEEDDFRLEVALPPEKTDGLGSGDEKQMERVSEPCPGSKKQLK
>.pdp_          RGTRELVGDTSRALGEEDEDDFPLEVALPPEKIDSLGSGDEKRMERLSEPGQASKKQLK
                  *.....*:::.*:*** ***** *.....*:***:*** *.....*
>10FL.pdp_      FEELQCDVSMEEDSRQEWTFITLYDFDNNGKVTREDITSLLHTIYEVVDSSVNHSPSTSSKM
>.pdp_          FEELQCDVSVEEDSRQEWTFITLYDFDNNGKVTREDITSLLHTIYEVVDSSVNHSPSTSSKT
                  *****
>10FL.pdp_      LRVKLTVPAPDGSQSKRSVLVNQADLQ SARPRAETKPTEDLRSEWKKQRAPLRFQGD SRLE
>.pdp_          LRVKLTVPAPDGSQSKRSVLNFHTDLQSTRPRADTKPAEELRGWEKKQRAPLRFQGD SHLE
                  ***** *:::****:****:****:*.** *****
>10FL.pdp_      QSGCYHHCVDENIERRNHYLDLAGIENYTSQFGPGSPSVAQKSELPPRTSNPTRSR SHEP
>.pdp_          QPDCYHHCVDENIERRNHYLDLAGIENYTSQFGPGSPSVAQKSELPPRISNPTRSR SHEP
                  *.....
>10FL.pdp_      EAIHIPHRKPPQGVDPASFHFLDTPIAKVSELQQRLRGTDGSKHFVRSPKAQCKSVGVGH
>.pdp_          EAAHIPHRRPQGVDPGFSHLLDTPFKASELQQRLRGTDGSKHFVRSPKAQCKNMGMGH
                  *****
>10FL.pdp_      VARGARNKPPLGPAIPAVSPSAHLAASPALLPSLAPLGHKXKXKXRAKESQQCGRGLQAPL
>.pdp_          GARGARSKPPLVPTTHTVSPSAHLATSPALLPTLAPLGHKXKXKXRAKESQASCRGLQGPL
                  ***** *:::*****:*****:***** *****
>10FL.pdp_      ASGG-PVLGREHLRELPAVVYESQACQPVQRHEHHHHHHHHHHHHYHHFYQT
>.pdp_          AAGGSTVMGREQVRELPAVVYESQACQAVQRHEHHHHHHHHHHHHYHHFYQP
                  *****

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FIGURE 3

GAATTCGCCCTTCTAATACGACTCACTATAGGGCAAGCAGTGGTAACAACGCAGAG
TACGCGGGGAGTCGGGGCCGCGGCGACGGCGGCAGGAGCGCGTCCCGGGCGCCGCCTC
GGGCTCCGCTCGGCTCGGGGGGCTGCTTCGGGAGGAGGAGAGCCAAGGGAGGGCGCCA
GGCCCCGCGGGCCGGGGCGCATGGCTTAGGGACGCTCCCGGGCCGCGCAGCCCCAGCA
TGGGGAAACTTCACTCCAAGCCGGCCGCGGTGTGCAAGCGCAGGGAGAGCCCCGGAA
GGTGACAGCTTCGCCGTGAGCGCTGCCTGGGCTCGGAAGGGGCATCGAGGAGTGGAT
CGGGAGACAGCGCTGCCCCGGGCGGTGTCTCGGGACCCCCGACAGCTGCGGTTGGCGG
GCACCATAGGCCGAAGCACCCGGGAGCTCGTGGGCGACGTGTTGAGAGACACGCTC
AGCGAGGAAGAGGAGGACGACTTTCGGCTGGAAGTGGCCCTGCCTCCTGAGAAGAC
TGACGGGCTGGGCAGCGGAGATGAGAAGAAGATGGAGAGAGTGAGCGAACCCTGC
CCAGGCTCCAAGAAGCAGCTGAAGTTTGAAGAGCTCCAGTGCGACGTGTCCATGGA
GGAGGACAGCCGGCAGGAGTGGACCTTCACCCTGTATGACTTTGACAACAACGGCA
AGGTCACCCGAGAGGACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGAC
TCCTCTGTCAACCACTCCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACCGTG
GCCCCCGATGGCAGCCAGAGCAAGAGGAGCGTCCTTGTCAATCAGGCTGACCTGCA
GAGCGCAAGGCCCCCGAGCAGAGACCAAGCCCACTGAGGACCTGCGGAGCTGGGAG
AAGAAGCAGCGAGCCCCGCTCAGGTTCCAGGGTGACAGCCGCCTGGAGCAGTCTGG
CTGCTACCACCATTGCGTAGATGAGAACATCGAGAGGAGAAACCACTACTTAGATC
TCGCCGGGATAGAAAACCTACACGTCCCAATTTGGGCGCTGGCTCCCCCTTCCGTGGCCC
AGAAGTCAGAACTGCCCCCCCCGCACCTCCAATCCCACTCGATCTCGCTCCCATGAGC
CGGAAGCCATCCACATCCACACCCGAAAGCCCCAAGGCGTGGACCCGGCCTCCTTC
CACTTCCTTGACACCCCAATCGCCAAGGTCTCAGAGCTCCAGCAACGGCTCCGGGGC
ACCCAGGACGGGAGCAAGCACTTTGTGAGGTCCCCCAAGGCCCAGGGCAAGAGTGT
GGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCCCCTCTGGGACCCGCCA
TCCCTGCGGTGTCCCCCTCCGCCCACCTGGCTGCCAGCCCGGCCCTCCTCCCCCTCCCT
AGCCCCCCTCGGGCACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCAGCAGGGC
TGCCGGGGCCTGCAGGCACCACTGGCCTCAGGTGGCCCTGTCCTGGGGCGGGAGCA
CCTGCGGGAGCTGCCCCGCTTGGTGGTGTATGAGAGCCAGGCCGGGCAGCCGGTCC
AGAGACATGAGCACCAACCACCATGAACATCACCACTTACCACCACTTCTACC
AGACATAGAGCCCCTCCCCAGGGCCCCACCCTGCCATATGAAGGACCCCAACCCCG
ACACCACAAGGCATTATTATTCTATTAATTATTGTTATTATGATGATTATTGTTATTA
ATAATTATTGTTACTCCACTAATATTTAGCTAGCCTACATGTAGAAGATCTATGGAA
ACACAGAACTAACTTTTATTTATATGTTAAAAAAAAAAAAAAAAAAAAAAAAAAGCGG
CCGC

995660
TACTT

FIGURE 4
SEQ. ID. NO.: 6

ATGGGGAAACTTCACTCGAAGCCGGCCGCGCGTGTGCAAGCGCAGGGGAGAGC
CCGGAAGGTGACAGCTTTGCTGTAAGCGCTGCTTGGGCAAGGAAAGGCATCG
AGGAGTGGATCGGGAGGCAGCGCTGTCCAGGCAGCGTCTCAGGACCCCGTCA
GCTGAGATTGGCAGGCACTGTTGGTTCGAGGCACTCGGGAACTCGTGGGTGAC
ACTTCTAGAGAGGCTCTCGGTGAGGAGGACGAGGACGACTTCCCCCTAGAAG
TGGCCCTGCCGCCTGAGAAGATCGACAGCCTAGGTAGTGGAGATGAGAAGA
GAATGGAGAGACTGAGCGAACCTGGCCAGGCCTCCAAGAAGCAGCTCAAGT
TTGAAGAGCTACAGTGTGATGTCTGTGGAGGAGGACAGCCGGCAAGAGTG
GACTTTCCTCTATATGACTTCGACAACAATGGCAAAGTGACCCGTGAGGAC
ATTACCAGCTTGCTGCATACCATCTATGAAGTGGTTGACTCCTCTGTGAACCA
TTCCCCCACATCAAGCAAGACACTGCGGGTGAAGCTCACCGTGGCTCCTGAC
GGGAGCCAGAGTAAGAGGAGCGTCCTTTTCAACCATAACCGATCTGCAGAGCA
CAAGGCCCCGAGCAGACACCAAACCCGCTGAGGAGCTGCGTGGCTGGGAGA
AGAAGCAGCGAGCCCCACTCAGGTTCCAGGGTGACAGCCACCTGGAGCAGCC
AGACTGCTACCACCATTTGCGTGGATGAGAACATTGAGAGGAGAAACCACTAC
CTAGACCTGGCGGGGATAGAGAACTACACGTCTCAGTTTGGACCGGGATCCG
CTTCGGTGGCCCAGAAGTCAGAGCTGCCCCCTCGAATCTCCAACCCCACTCG
CTCTCGCTCCACGAGCCAGAAGCTGCCCACATCCCACACCGGAGGCCCCAA
GGTGTGGACCCAGGCTCCTTCCACCTCCTTGACACCCCATTTGCCAAGGCATC
AGAGCTCCAGCAACGGCTCCGGGGCACTCAGGATGGGAGCAAGCACTTTGTG
AGGTCCCCCAAGGCCAGGGCAAGAACATGGGTATGGGCCACGGGGCCAGA
GGTGCAAGAAGCAAGCCTCCACTGGTACCCACCACCCATACTGTCTCCCCCT
CTGCCCATCTGGCCACCAGCCCAGCCCTTCTCCCCACCCTGGCACCCCTGGGG
CACAAGAAACACAAGCATCGAGCCAAGGAGAGCCAGGCGAGCTGCCGGGGC
CTGCAGGGCCCCCTGGCTGCAGGAGGCTCCACCGTCATGGGGCGGGAGCAGG
TGAGGGAGCTGCCTGCCGTGGTGGTGTACGAGAGCCAGGCTGGGCAGGCCGT
CCAGAGACACGAACACCATCACCA~~CC~~ACCAACATCACCA~~CC~~ATTATCACCA~~CC~~

995660
1394

FIGURE 5

MGKLHSPAAVCKRRESPEGDSFAVSAAWARKGIEEWIGRQRCPPGGVSGPRQLRLAGT
IGRSTREL VGDVLRDTLSEEEEDDFRLEVALPPEKTDGLGSGDEKKMERVSEPCPGSKK
QLKFEELQCDVSMEEDSRQEWTFTLYDFDNNGKVTREDITSLLHTIYEVVDSSVNHSPTS
SKMLRVKLT VAPDGSQSKRSVLVNQADLQSARPRAETKPTEDLRSWEKKQRAPLRFQG
DSRLEQSGCYHHCVDENIERRNHYL DLAGIENYTSQFGPGSPSVAQKSELPPRTSNPTRS
RSHEPEAIHIPHRKPQGVDPASFHFLDTPIAKVSELQQRLRGTDGSKHFVRSPKAQGKS
VGVGHVARGARNKPPLGPAIPAVSPSAHLAASPALLPSLAPLGHKHKHRAKESQQGC
RGLQAPLASGGPVLGREHLREL PALVVYESQAGQPVQRHEHHHHHEHHHHYHHFYQT

4130 996660

FIGURE 6
SEQ. ID. NO.: 8

MGKLHSPAAVCKRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGSVSGPRQLR
LAGTVGRGTRELVGDTSTREALGEEDEDDFPLEVALPPEKIDSLGSGDEKRMERLS
EPGQASKKQLKFEELQCDVSVEEDSRQEWTFTLYDFDNNGKVTREDITSLLHTIY
EVVDSSVNHSPSTSSKTLRVKLTVAPGDSQSKRSVLFNHTDLQSTRPRADTKPAEE
LRGWEKKQRAPLRFQGDHLEQPCDYHHCVDENIERNHYLDLAGIENYTSQFG
PGSPSVAQKSELPPRISNPTRSRSEPEAAHIPHRPQGVDPGSFHLLDTPFAKASE
LQQLRGTDGSKHFVRSPKAQGKNMGMGHGARGARSKPPLVPTTHTVSPSAH
LATSPALLPTLAPLGHKKKHKHRAKESQASCRGLQGPLAAGGSTVMGREQVRELP
AVVVYESQAGQAVQRHEHHHHHEHHHHYHHFYQP

102799660

FIGURE 7

PUTATIVE PROMOTER:

GAATTCATATGCACATTAAATTCCAGGGAGCCCTCCTCTAGGCTATTTGACCC
TAGCTCAAGAAAGGGGGGATTAAGAGTCTTACAGGGAGGGGATCCAAGGTCAG
CATATACAGTTAGTCAGGGACCAGTCTGTCTGTGTCTCTCTCCATGGGGTT
TACTATCATTGCTTTCCCCTAATGGTTCTTACTCCTGCTTCTTCCTGCTTATTTT
TCAGCCCACAGCGACCCCAAGAAGCTGCTCCAACCCCTGGGACTATGGAGCT
CTACAGCTGTAGAGACCACCAGGAAGTGGACTGCAGGCCCCCTGGCCTCTCCA
TTCAGATTCTGCAAAGAGATCCTGATGGGTTGGGGCCAATGGGTCAGGCATCC
AGTCAGCTCTGGCTAAGGGGTGAAGGAGTCAGGTGTTACCAACGTGGTGGCA
GGGGCCACCTTGAAGCTGTGTTCTGTGCCATGGAAGAAGGAAGAGGAGGAG
GAAGCTAAGCTGGAAGGGAAGGCAGGTGATACAGGAAAATTAAGTATGAGC
TTTGCTATAGTGACCACTTTTCCTTCACTCCTTGAGCTGTGGCCTTAAGAAGT
TGTACCAATGGGAGGCACCTTGCATAGTAAGTGTTTCAATTTGCTGAATACTTACA
GAGGGCTATAAGTGGACAAATATGTCCAAAAACACATGAAACACACACCATC
AACACTTGCAGATGGTCTCCTTCAGGGAACCTTTCCACACTGGCTCTCCCCTC
ACTGAGCTTTTCCTTCCTATCACCTCCCAGTCTAGGCTCCTGGAGTCAGTAGT
TGGAATCTCAGATGGGAAGAAACCTTAAAAGTCATCTGGTCCAGTATTTTCC
AAAGCATGTTCCATGAACTTGTTTTCCAGAAATGGTTTTCTGGTCTGGTGAGT
TTAAGAAACCCTGCTTATGACGATGCTCTCCATTTAGAGAATCACAAAGCTTG
GCTACTCAATGAAAGCTCTGACAAGTCCTGCAGGAAAAAACTTGTCTTCTTTT
GGCTAAGCTAGGGCTGCCCAAAGTTTCTCATGGAGTCCTTTCTTGACATAAT
AATAGCATCTCACAAACCAGTGGTCGGGGGAACCCATTACGGGAAATGCTAA
TCTTCTGGACCCTTCCTTCTATTTTATAGGTGGAGAGGCTGTGTGGTGGTCTG
GTTGGCTGCATGTAAGTAAAAACAAAGGCTTAAAAAGATAGGGGCTTCTTT
TGCTCTTTTGTAAACAAAGTCTGGGAATAGTCAAAGACTGGTACTGTGACTAG
AAAGGCTTCTGATATGGTTTGGCTCTGTGTTCCACCCAAATCTCACCTTGAG
TTGTAATGATCCCCATATGTCAAGGGCAGGATCAGGTGGAGGTAATTGAATC
ATGAGGGCAGTTAATCCCATGCTGTTCTTGTGATAGTGAGTTCTCACAGGATC
TGATGGTTTTATAAGGGGCTTTTCCCCTTTGCTCGGCACCTCTCTCTCCTGCTG
CTATGTGAAGAGGGACGTGTTTGCTTCTCCTTCTGTCATGATTGTAAGTTTCCT
GAGGCCTCCCCAGCCATGTAGAACTGTGAGTCAATTAAACCTCTTTCCTTTAT
AAATTGCCCAGTTCCGGTATGTTCTTGTAGCAGCCTGAGAACGGACTAATATA
GCTTCTCTGCCCAGTGTGAAGAAGAGCAGAGAGGCAGGGCTGGGAGGAGAA
CAAGGCACCTGCCAAGGAGATGGGGAGGCTGGGCTGGCTTTCCCTCTCCTCC
AGGCTCACCTGGGAAGCCTGTGCTCTAACTTGCTCAAACATCCTGAACCCA
GGAGGAGTTGGTGGTACACAAATTCAATTCAATTCAACCCACATCCAGACT
GTAATCAAGCAGCAGTCTTTTGGCCCAGTCATCTCCAACCTCATCTTCTCCCC
TCTACTCCCAAACCATGCTCTCTCTGCTCCAGAGCCAGGGGCCTCTTTGCTGT
TTCCAAAACATCCATGGCAGTCTCCACTTCAGGGCCTTTACATGTGCTGTTCC
CTCTGCCTTTAGTACCCAAACAGAATGGCTTGGAGACCCACGCCCTAGTTCTT
GGGGAAGCCCAGCCTCCTCCATCTCATATCTAAGGCCTGAGGCCTCCTGGCT
GCCTCTGGCTCCCATCTTTTCTCCTGCAGGGTATCTCCACTGTGAAGATTGCT
GTTGGCCCCATTAATTACCTGTAGGAGTCATCTTTCTGATTCCTTAATTTTGTC

CTGTGCCACTAACCCAGGAAGTGGCTAGGATTTTGCTGAGGGCTTGGAGTAA
CAGAGGAAGAAGAGAGCACTGCCAATCGCATGTTAGAGCTCACTGTCCCAA
AGTGAATTGGCCAGTCCCCACCTTGCTGGCTGTGCCTTCTTAGGCCCCATTAT
CACTCTCTTCTCATGCTGTTTCCTTTGAGATCTTTGTTTTCCCTTCCCTCCAAA
ATGCCTGATATTTTCTCAGGCAGAGTAGTCTAACTTTCCCTCCTCACCCAAA
CTAGGCTTCCAGGCCCTTTAGCAATGCCAAAACCTCACCAGGGAACATAAAA
TAAAGCAACTCCAGGGATCCAGGAGGAACCAGTGGAGACTTGGGAACCTGATT
TTCTCCTTCATATATCCAAGATCGTATTATTGGCAGTACTCCCTCCTTATTGAC
CACAACATGCTCCTGGCTGAGGCTGGGCAGAGAGAGTGTGTCTCCTTCCACA
GCAGGTGTGATGGCACCTGCTATAGGCAGTGTGTTCGGCATTGCATTGAG
AGATGCAAGTAAGGCAAGAACCCTGGCCTCAAGGAGCCCTGGCTCCAGGAG
TGAAACTTAGCCTCATGCATAAAATAAGTGGAGATGGGAGGGGGCAGGGAA
ACCTTGGCTAATCAGAGCAGAGAAGAGCCCTTCAGGTTGGAAGGTCAAGGAG
GGCTTCCTTTAGGAAATGGCATTGGAAGGGGGCCAGATCAGATGGCTTAACTT
CGGGGACAAGCTTTGGAGCAGCTAACTTGGGTGATGTAGGATTTTTTTTTTTT
TTAAATCTCCCAGCTCTATGTCTGACAGATTTACCTAAACCAGCCTTGTTAA
ATCTCAAGCCCCATGAAACCCGTTTCTGTTATAATCTCTCTCTTATCTCTTC
CTTGCCTTCTTTCCCATTTCTCCTCCCCCAAAGGATAGGAAATCTTCAAAGAA
AAAGATGTGTCACTGCAAGTATACAGCCCAAGAAATGGGCCAGATAAATTAT
TAAACACACGAAAAGACAGTGAGTTATGGGGTGGGAAGCCCTCGGAGGGCG
GAATGGCCACCCCAGGTAGACAGCATGCTGGTGGCCCCCTGGAGACCCCCTTG
TCAGAGACCTGGACAGACTAACATTTTGCCACAAGGCCCATCTCTTGGGTCT
CACCCCAGATCTGGGTAAAGGGTATCATGATTCCAATAGCAGTGAAGTCCCAG
GCGCCTGCTGGGCTGGGAGGCACCAGGGTGAAGGTGGAGGGGGGCTTTGTGT
CTGGGCTGGACATTTGGGATTTACTCCCCGCAAGACTCAAACCTGCTAACTGCA
GTTTTAGTTCTTGCTTTTACCTCTTTTGAACCTGTAAAAAGAAATTCCCAAGG
GGAAGAGGGGATACTTTTTTCTCATGGAAGAAGAAAGCCAGGACCGGTTTAA
GAAAGTAACCAACTTTCTAAGCACTGTGAGAAAGGATGCTCCAAGTTTTGCT
TTGATTTAGAGGCACCCTGGTACCAGCAGGGAGGGGTGAGAAAGGCAAACA
GGAATTCCAGACGAATTCCATTGCCTTTTGAGGGGTCTGAAAGAGGGGTGCCC
ACTCCGACTCAGATGCTCAAACCCCTGGCTCCCTCTTACACCTGACCCCCGCC
GTTCTGCCCCACTTTTTCATGTTCTACAGCTCAGGGGTTCTTACTTCAGCATT
ACCCACATTTGATGCTGGATCATTGTTCTGGTAGGGTGGGGGGGCTGCCTTA
TGCATTGTGGTATGTGTAGCAGCAACCCTGGCCTCTACCCACTAGATACCTCC
AGGCATTACCAAGTGTCCCCTAGAGGGGCAAAATTGTTTGCTGTCAGGTCCTTA
TGGGATGGAAAGAAAGAAAAATGGCCTGTTACCCCTGGTGTAACCTTACTACA
CTGTTTACTAATTCATCATTTATTGTTTCTTGCCCTATCTTCCCCCTAGGTGAGT
GGGAGTTTCGATGAGAGTGGCAGTTGTCTATTTTGTTACCGATGTATCTTAGG
TGACTAAAACAATGGTTGTCACATGGCTGGCCCTTCATATTTGTTTCCAGATG
GAAGACTCTCTTTCTAGTGGTGGAAACATTAGTTTTGCACTGTGTTGGGACAAC
CTGATGTAGTGAAAACAAGCCTGGGCAATGAAATCAACAGATTGGAGTTCAG
TTCCTAATTGGGTGATGGATGAACTTTGTGACCTTGGGCAAGTGAGTTCACCT
CTCTGAGTTGAATAGGTTCCCTCCTTTCTAGAACAAAGTATGAGTCTGCATCAG
AGAGTGGTTGCGAGGGCTACACATGATGGAGGATGAGGACTGGCACATCAG
AAGTACTGAATGAAGAATTGTAACATAAAAATGACAACAGTAATATATTTTT
GTGGTTTCAGCACTCTTCAAATGAAACCACCTGGCCAACAGGATTTTAGTGTA

CCGTGCTTATAACATTAGCCTTCGTTTCCACCAAAAAGGGTGTTAAAAAAGGA
 AGCTTGGAACATGAAAGTAAGACACTTGGATGAAGAGATTTATGACTCTGGG
 GGGCTGTGAATTCCTAATGTCCTTTTGAGACATGTAGATCTTCCAGAGCGATG
 CTGCCCAATGCAGTAGCCACTAGCCAAGTGCAAATGGTCACTTGCAATATGG
 CTAGTCTTTGAGATGTGTTTTAAGTGTAATAACACACTGAATTTTAAAGACT
 TAGCGCAATACAAAGAATGTAAAATATCTCATTATATCTTGAAATTATACTAT
 TTTGGATATATGGTGTTCCCTTGGTGCTTTTGGGGACTGGTTCAGGATCCTA
 GAGGATACCCAAATCCCCAGATGTCAAGTCCGCTATATAAAATGTCCTGTAG
 TATTTGCATATAACCTACACACATCCTTCTGAATACTTTAAATCATCTCTAGA
 TTCCTTGTAATTCCTAATACAATGTAAATGTTATGTAAATAGTTGTTATACTAT
 ATTAAAAAGTTTTTTTATTCTTTATTTTTGCTGTATTATTCTTTTTTGCATATTTTC
 AGTCCACAGATGGTTGATGCCACAGATGTGGAACCTGTGAATAAGGAGGGCT
 GACTGTATTGAGTTAAGCGAAATATATTATTAATATTTTCATCTATTTCTTTT
 CTTCTAAAAGATGTGGCGACAAGAAAATTTAAAATTACAAATGTGGCCCACA
 TTATATTTCTATTGGGCGAGTGCTGCTCTAGAGAGTCGGCAAAAAGGGCAGAA
 TGGAGCCTCCATTATACAGATCACAAAACCTGAGCACAGGTAATTCCTCCAA
 AGGTCGGGGGCTGGTCTCACTCTGAGCTGCGGGTTTTCTTTTCCACGCCAGAG
 CTGCCTGGTGCCAGGACGAGCGTAACACGGACCCACAGTGTCCCCAGAAGGG
 GGCAGGCGTTCTGAGAGCCACAAAGGTGGGGTGGAATCCCTTGATGTCGACC
 GCCACCATCCCCCTCCCCCGCGCGACCTCCCCGCAGAGACCTCCCCAGACCA
 AAACAAACAAACCCTTGGGTCTGGCGAACTGCAGCGGGGAGCGGAACCAA
 GGAAGATCAAAGACTCAGCGGTTACCCCTTCCGGGGCCGCGCAGTTTGGCAG
 CGCGCCCCGACCCGGGCGGGCACCCACGGGCCCCCGGACGAGGAGATCCCA
 GAGACTGGCTGATAACGGGGCGCTTTGGACATTTGTCGCTGCCTGGAGAGGG
 CTGGGCTCACACTGGCCCGGGGTGCGCTGGGGGCTCCTCCTGGACTCCCCAA
 ATAAGAACTAGAGGAGTGCGGTGGTGGGGGGCGGGTCACGGGGCGGGTAA
 TGAACACTTTCTGCAGAAGGTAGGTCGTGGGAAGACTGGGAAAAGGCAGCG
 CTGCCGAAGCTTGACCTGAGCAGCTAAGGTCTCCGCTCCCGACCTCAGTTTC
 CCCACCTGTAAATTGGAGCCGCGGAGTCCCGCCCTGCCCGTTTAGAGAGAAC
 GTGGAGCGGAGGGAAGTGACAGTACAGTTAGCGATGGCCGGGCTGTTCTGTC
 CCAATACGCCTCCTGGACAAGCCGCCCCGCGGGTCCGACGCCCTGGAGCTC
 GGCCCCCGGCCCCAGACCGCGGCAGGGAGCGCGGACTGTGTCCCGCCCCCTCC
 CGTCAGCGCCCCGCCCCTCGTCCCCGCCCATGCCCCGCCTCCGGCCCCGCCCC
 GCCGCAACCAGCCTTGCCTTTGATGCGCCGCACCGGCCAATGGGCGCGCGGG
 GAGGCGCGGGCCGCGGGCGGGCTGGGGGCTCGGCGCTCCCGGGGCGTC

EXON 1: 5'UTR

AGTCGGGCGCGGGCGACGGCGGCAGGAGCGCGTCCCGGGCGCCGCCCTCGGGC
 TCCGCTCGGCTCGGGGGCTGCTTCGGGAGGAGGAGAGCCAAGGGAGGCGCC
 AGGCCCGCGGGCCGGGCG

EXON 2: 5'UTR

CATGGCTTAGGGACGCTCCCGGCCGCGCAGCCCCAGC

EXON 2: CODING

ATGGGGAAACTTCACTCCAAGCCG

EXON 3: CODING

GCCGCCGTGTGCAAGCGCAGGGAGAGCCCGGAAG

EXON 4: CODING

GTGACAGCTTCGCCGTGAGCGCTGCCTGGGCTCGGAAGGGCATCGAGGAGTG
GATCGGGAGACAGCGCTGCCCCGGGCGGTGTCTCGGGACCCCGACAGCTGCGG
TTGGCGGGCACCATAGGCCGAAGCACCCGG

EXON 5: CODING

GAGCTCGTGGGCGACGTGTTGAGAGACACGCTCAGCGAGGAAGAGGAGGAC
GACTTTCGGCTGGAAG

EXON 6: CODING

TGGCCCTGCCTCCTGAGAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGA
AGATGGAGAGAGTGAGCGAACCCTGCCAGGCTCCAAGAAGCAGCTGAAGT
TTGAA

EXON 7: CODING

GAGCTCCAGTGCGACGTGTCCATGGAGGAGGACAGCCGGCAGGAGTGGACC
TTCACCCTGTATGACTTTGACAACAACGGCAAGGTCACCCGAGAG

EXON 8: CODING

GACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGACTCCTCTGTCAA
CCTACTCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACCGTGGCCCCC
GATGGCAGCCAGAGCAAGAGGAGCGTCCTTGTCAATCAGGCTG

EXON 9: CODING

ACCTGCAGAGCGCAAGGCCCCGAGCAGAGACCAAGCCCACTGAGGACCTGC
GGAGCTGGGAGAAGAAGCAGCGAGCCCCGCTCAG

EXON 10: CODING

GTTCCAGGGTGACAGCCGCCTGGAGCAGTCTGGCTGCTACCACCATTGCGTA
GATGAGAACATCGAGAGGAGAAACCACTACTTAGATCTCGCCGGGATAGAA
AACTACACGTCCCAATTTGGGCCTG

EXON 11: CODING

GCTCCCCTTCCGTGGCCCAGAAGTCAGAACTGCCCCCCCCGCACCTCCAATCCC
ACTCGATCTCGCTCCCATGAGCCGGAAGCCATCCACATCCCACACCGAAAGC
CCCAAGGCGTGGACCCGGCCTCCTTCCACTTCCTTGACACCCCAATCGCCAAG
GTCTCAGAGCTCCAGCAACGGCTCCGGGGGCACCCAGGACGGGAGCAAGCAC
TTTGTGAGGTCCCCCAAGGCCAGGGCAAGAGTGTGGGTGTGGGCCACGTGG
CCAGAGGGGGCAAGAAACAAGCCCCCTCTGGGACCCGCCATCCCTGCGGTGTC
CCCCTCCGCCCACCTGGCTGCCAGCCCGGCCCTCCTCCCCTCCCTAGCCCCC
TCGGGCACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCAGCAGGGCTGCC
GGGGCCTGCAGGCACCACTGGCCTCAGGTGGCCCTGTCCTGGGGCGGGAGCA
CCTGCGGGAGCTGCCCCGCCTTGGTGGTGTATGAGAGCCAGGCCGGGCAGCCG
GTCCAGAGACATGAGCACCACCACCACCATGAACATCACCACCATTACCACC
ACTTCTACCAGACATAG

EXON 11: 3'UTR

AGCCCCTCCCCAGGGCCCCACCCTGCCATATGAAGGACCCCAACCCCGACAC
CACAAGGCATTATTATTCTATTAATTATTGTTATTATGATGATTATTGTTA
ATAATTATTGTTACTCCACTAATATTTAGCTAGCCTACATGTAGAAGATCTAT
GGAAACACAGAACTAACTTTTATTTATATGTTAAAAAAAAAAAAAAAAAAAA
AAAA

09993966.43704

FIGURE 8

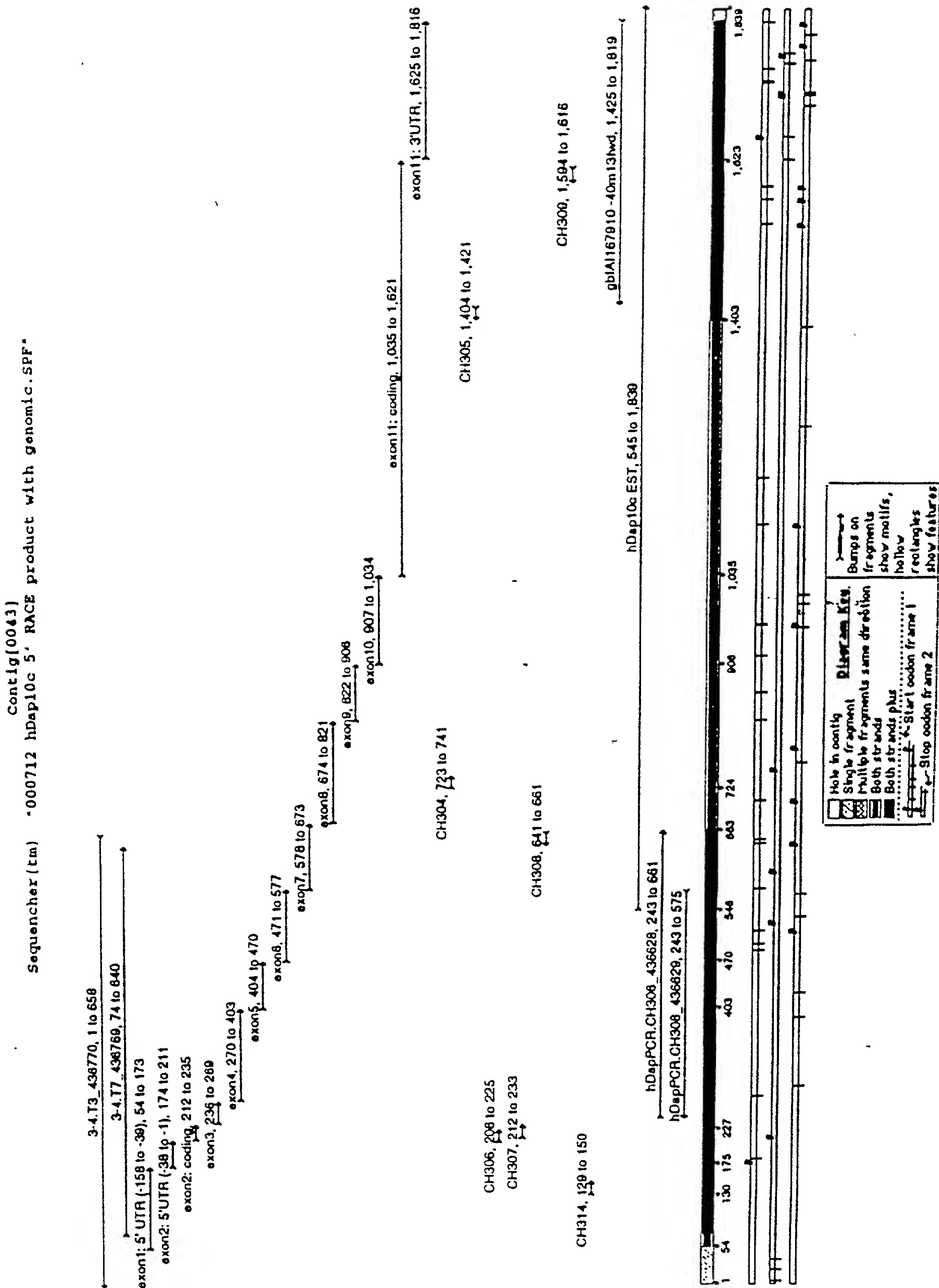


FIGURE 9

Wnt/ β -catenin Pathway Induces Genes Which Promote Cell Proliferation

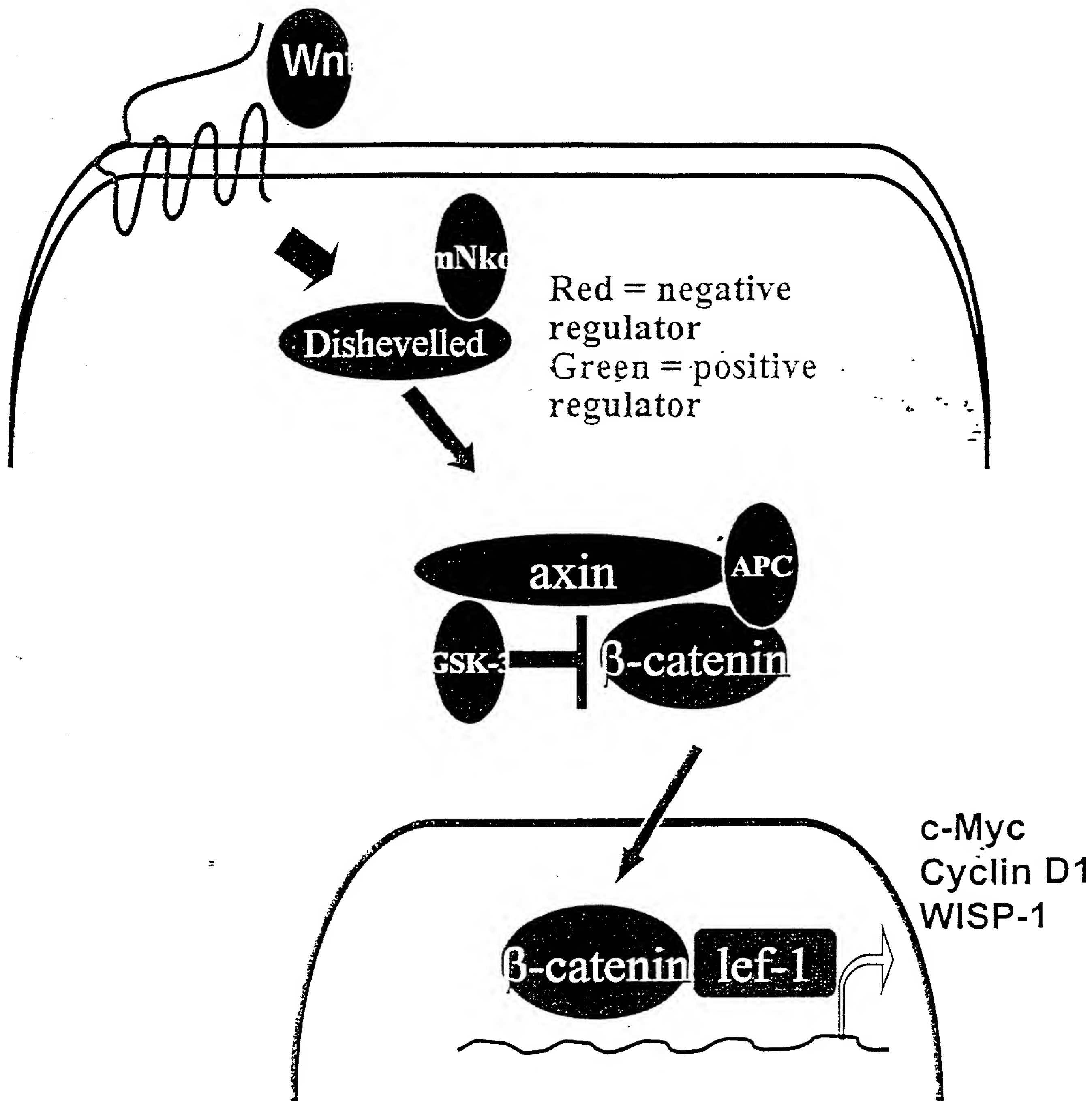
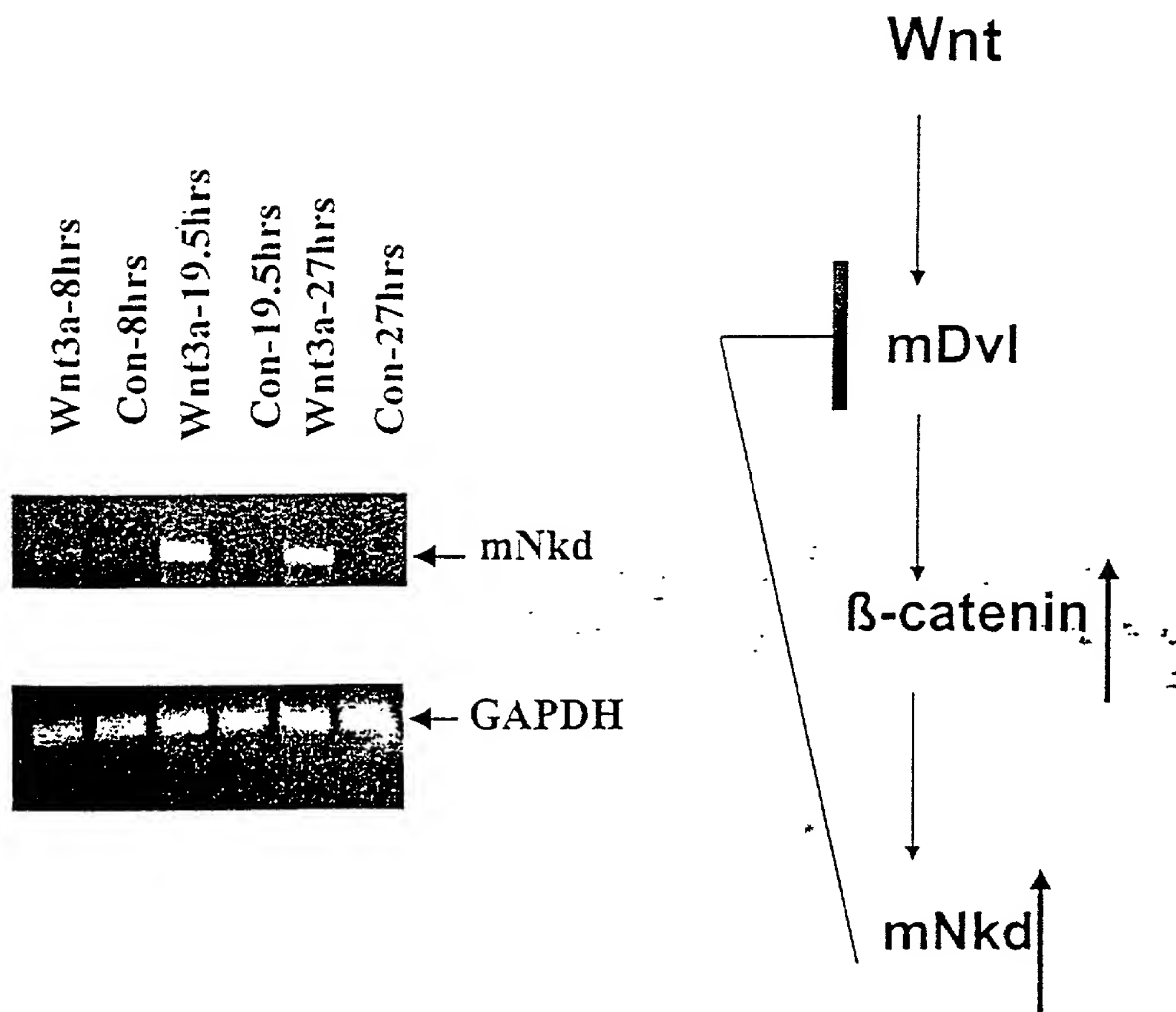


FIGURE 10

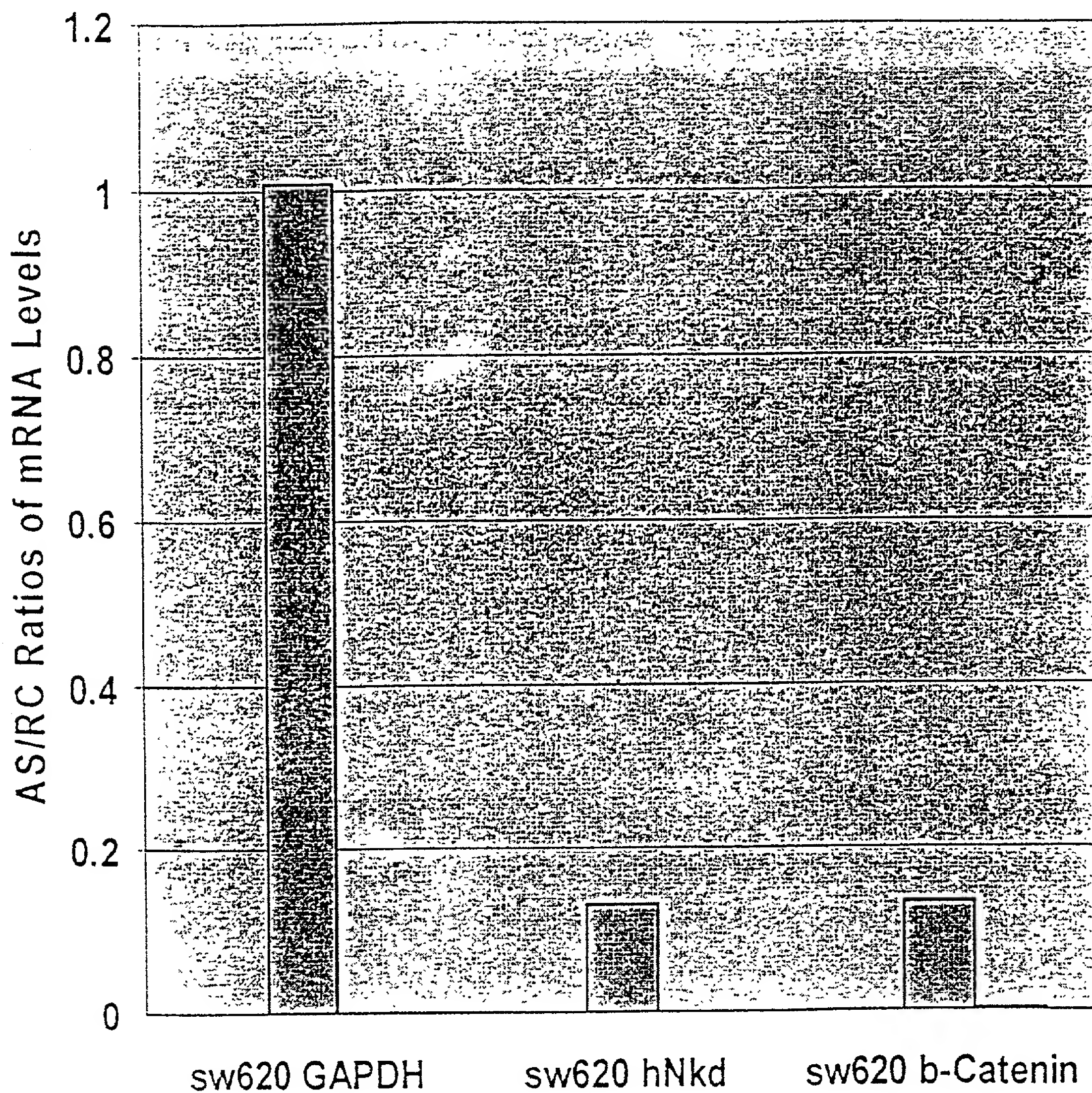
mNkd mRNA Is Induced by Wnt Ligand



mNkd may be a part of the negative feed back loop of the Wnt/ β -catenin pathway

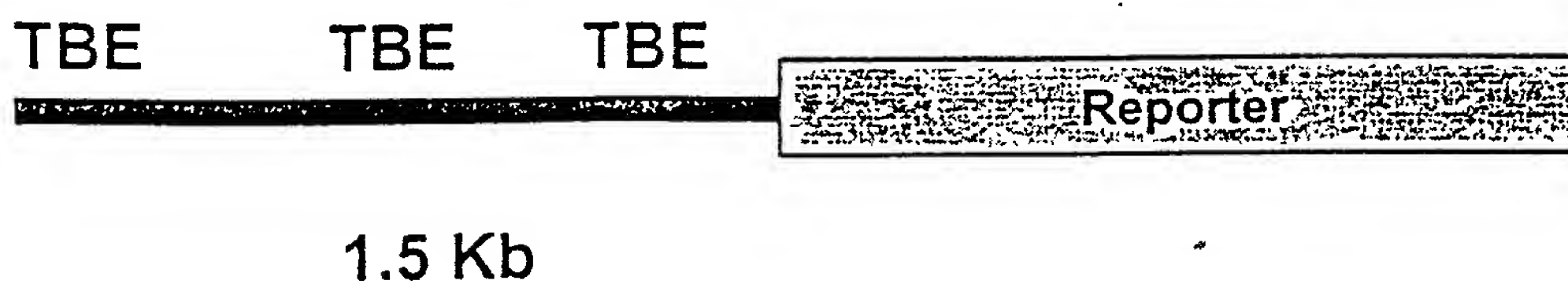
FIGURE 11

Ratios of hNkd and β -Catenin mRNA Levels in SW620 Cells Treated with β -Catenin AS/RC Oligos



Using hNkd Promoter---Reporter Expression Construct to Screen for Small Molecule Inhibitors that Down Regulate the Expression of the Reporter

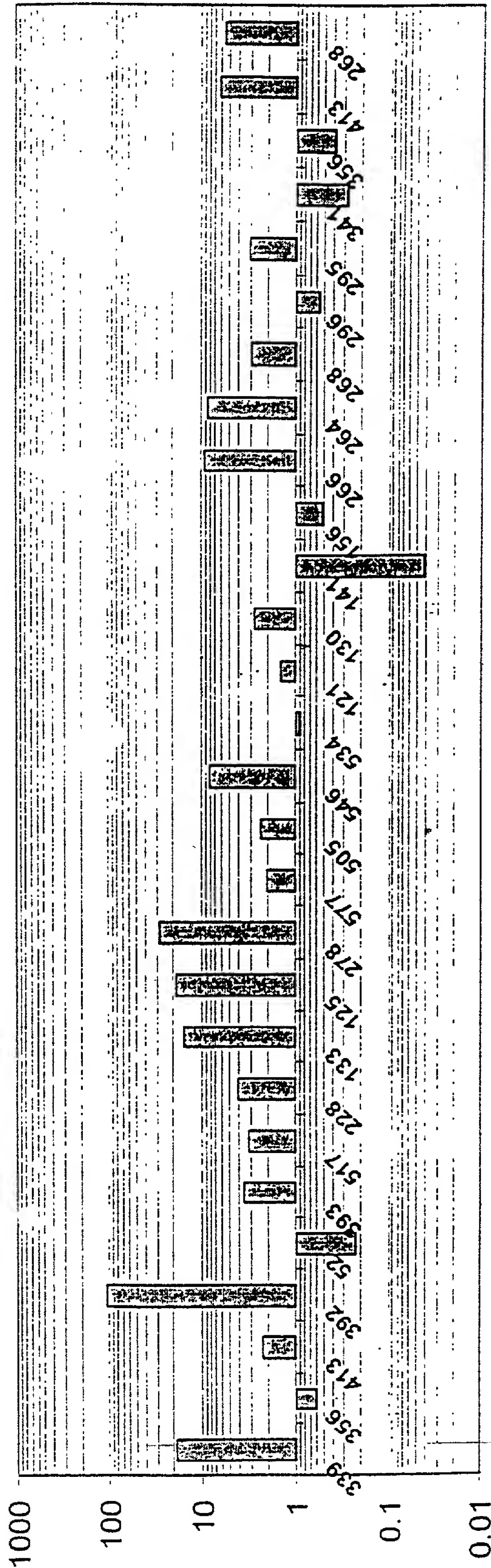
Our Strategy:



TBE: TCF binding Element (CTTTGA/TA/T)

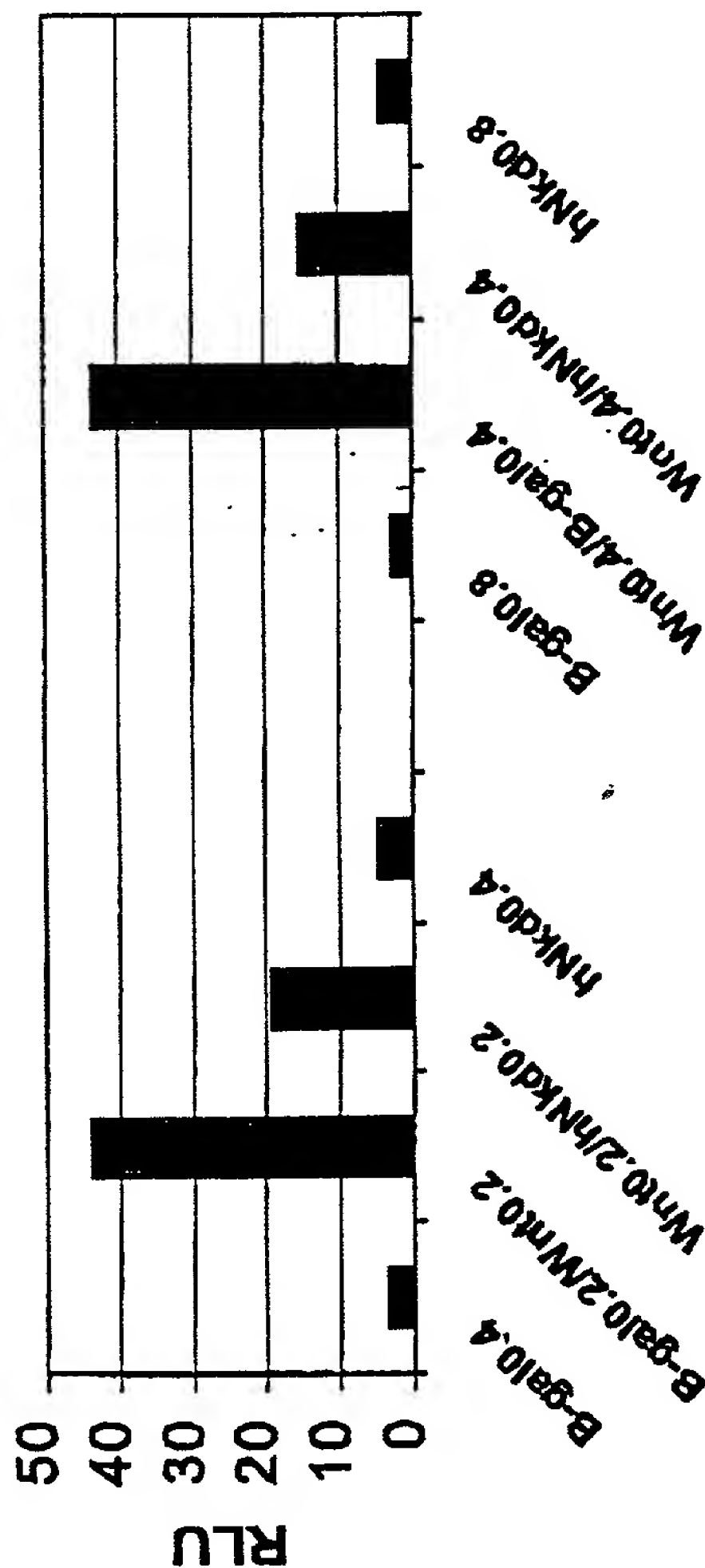
FIGURE 13

Ratios of hnk mRNA Levels in Cancer/Normal Colon Tissues

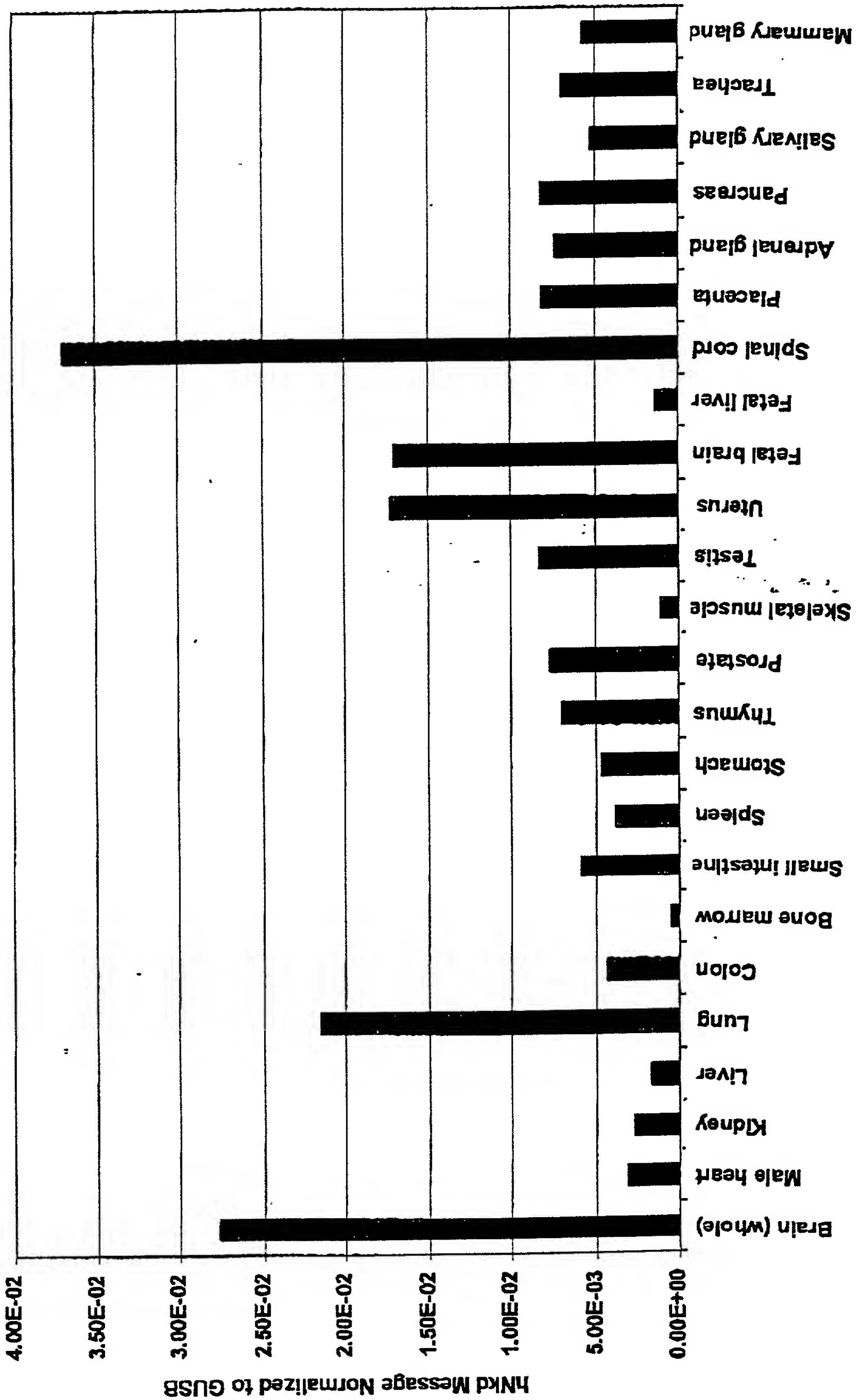


FOOT 035550

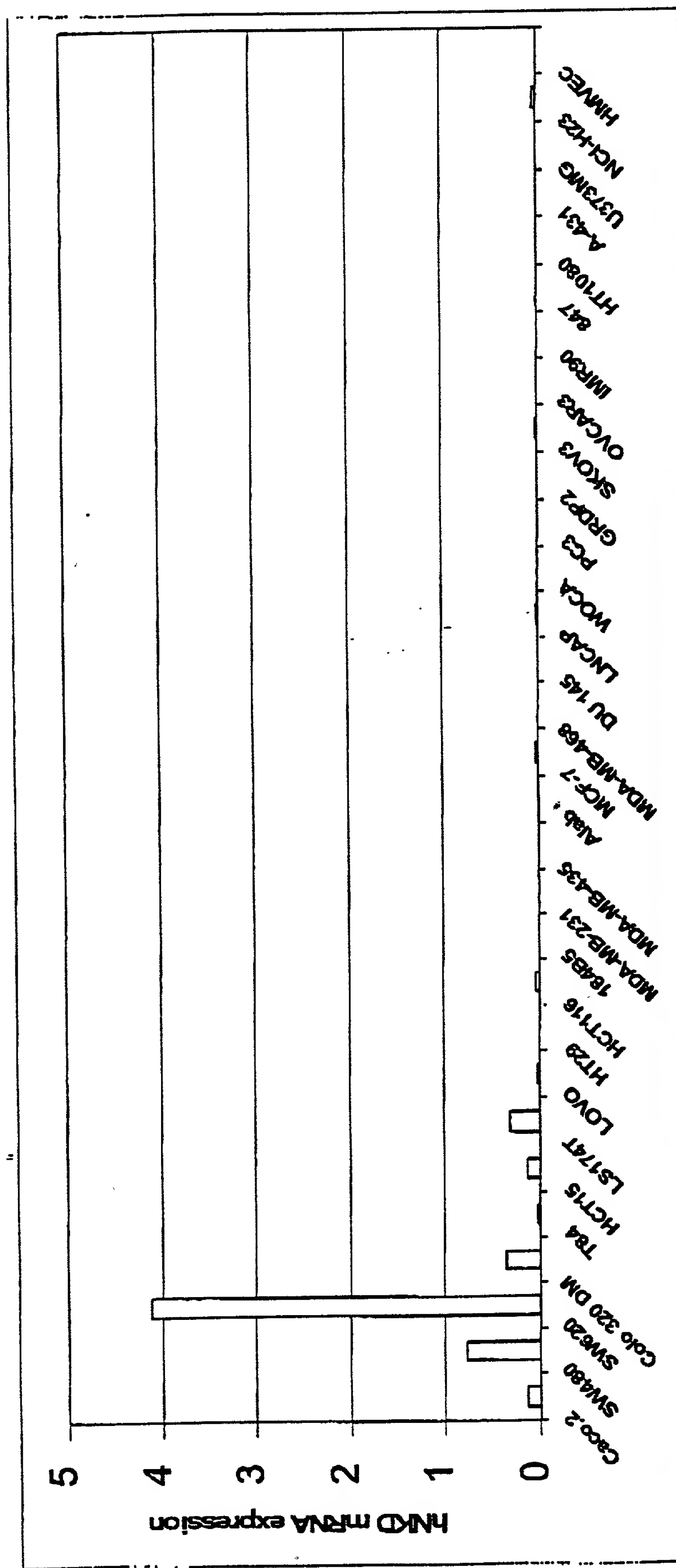
hNkd inhibits Wnt-1 activated luciferase reporter (Chie's)



Expression of hNkd in Normal Tissues



40227-936650



Other cancer cell lines

Colon cancer cell lines